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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/746,563	12/22/2000	William E. Glenn	FAU-7038/42	1691

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EXAMINER
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HENN, TIMOTHY J

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/746,563

Applicant(s)

GLENN, WILLIAM E.

Examiner

Timothy J. Henn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 15-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 05 December 2005 have been fully considered but they are not persuasive.

In the 05 December 2005 response Applicant argues that Uchiyama discloses pixels arranged in a conventional cardinal manner and that there exists no motivation to use the readout scheme of Uchiyama with the sensor of Kawahara. Kawahara discloses a pixel arrangement in which R, G and B pixels are diagonally offset on successive lines (Figure 4), but does not disclose the three register readout structure of claim 15. Uchiyama discloses a readout system wherein R, G and B pixels (Figure 4) are separated into R, G and B registers (Figure 4, Items 113) as they are readout from image sensor (Figure 4, Item 112). Uchiyama further discloses that such a readout system allows for simultaneous output of R, G and B pixel signals (c. 5, ll. 57-62). In combining the sensor of Kawahara with the readout structure of Uchiyama, the R, G and B pixels would need to be separated during readout into their respective registers, as taught by Uchiyama, in order to maintain the function of simultaneous R, G and B readout. In doing so, the examiner notes that the R, G and B pixels which are diagonally offset in alternating directions for successive vertically adjacent lines of a group of lines would be connected to their respective registers as claimed in claim 15.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention

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where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, since Uchiyama discloses motivation (i.e. simultaneous output of R, G and B pixel signals), Applicant's arguments of hindsight are not considered persuasive.

***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawahara et al. (US 4,758,883) in view of Uchiyama et al. (US 5,194,944).

**[claim 15]**

Regarding claim 15 Kawahara discloses an apparatus for producing electronic video signals representative of color images of a scene comprising: a sensor having a color filter thereover (Figure 5A, Item 18 CCD and Item 19 COLOR FILTER); a lens system that focuses light from the image onto the color filter and sensor (Figure 5A, Item 13); and means for producing electronic video signals from the output of the sensor (Figure 1, VIDEO OUT; c. 2, ll. 8-40; Figure 9; Figure 10); said sensor comprising a sensor array having alternate lines offset by half a pixel spacing, and diagonally coupled on successive lines, and the color filter having repeating R, G and B patterns offset on successive lines so that R pixels are arranged diagonally, G pixels are arranged

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diagonally and B pixels are arranged diagonally (Figure 4; c. 3, ll. 7-15). As claimed Figure 4 can be read as being "diagonally coupled on successive lines" since the pixels are offset in successive lines and in contact with each other. For example, the first "R" pixel of the first line is offset from the first "B" pixel of the second line, therefore the two pixels can be said to be "diagonally coupled" as claimed. However, Kawahara does not disclose first, second and third registers which are coupled to R, G and B pixels respectively.

Uchiyama discloses a readout system wherein R, G and B pixels (Figure 4) are separated into R, G and B registers (Figure 4, Items 113) as they are readout from image sensor (Figure 4, Item 112). Uchiyama further discloses that such a readout system allows for simultaneous output of R, G and B pixel signals (c. 5, ll. 57-62). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include R, G and B registers as taught by Uchiyama in the system of Kawahara to allow simultaneous readout of R, G and B pixels. In combining the sensor of Kawahara with the readout structure of Uchiyama, the R, G and B pixels would need to be separated during readout into their respective registers, as taught by Uchiyama, in order to maintain the function of simultaneous R, G and B readout. In doing so, the examiner notes that the R, G and B pixels which are diagonally offset in alternating directions for successive vertically adjacent lines of a group of lines (Figure 4) would be connected to their respective registers as claimed in claim 15.

**[claim 17]**

Regarding claim 17, Kawahara discloses a lens system which is a "motion picture film type of lens system" (Figure 5A, Item 13). The examiner notes that the lens of Kawahara is a "phototaking lens having an iris" (c. 3, ll. 23-24) which could be used in a motion picture film type of camera and is therefore a "motion picture film camera type of lens system" as claimed. The examiner notes that as written claim 17 does not require any specific lens or lens system, instead the claim merely requires a "type" of lens which could be used in a motion picture camera. For example, focusing lenses and zoom lenses can be considered to be "types" of lenses which are used in motion picture cameras and which meet the limitations of the claim as written.

4. Claims 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawahara et al. (US 4,758,883) in view of Uchiyama et al. (US 5,194,944) in view of Morisawa et al. (US 4,611,243).

**[claim 16]**

Regarding claim 16, Kawahara in view of Uchiyama discloses all limitations except for a low pass prefilter interposed before the color filter. Morisawa teaches placing optical low-pass prefilters before image sensors in order to create moiré-free images (c. 3, ll. 20-37). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include an optical low pass filter as taught by Morisawa to create moiré-free images.

**[claim 18]**

Regarding claim 18, Kawahara discloses a lens system which is a "motion picture film type of lens system" (Figure 5A, Item 13). The examiner notes that the lens of Kawahara is a "phototaking lens having an iris" (c. 3, ll. 23-24) which could be used in a motion picture film type of camera and is therefore a "motion picture film camera type of lens system" as claimed. The examiner notes that as written claim 18 does not require any specific lens or lens system, instead the claim merely requires a "type" of lens which could be used in a motion picture camera. For example, focusing lenses and zoom lenses can be considered to be "types" of lenses which are used in motion picture cameras and which meet the limitations of the claim as written.

### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Henn whose telephone number is (571) 272-7310. The examiner can normally be reached on M-F 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TJH  
2/16/2006

A handwritten signature in black ink, appearing to read 'Lin Ye', with a stylized flourish at the end.

Examiner: Lin Ye  
Technology Division 2622